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# Abstract

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Between 1989 and 1991, excavations adjacent to the former settlement of North Conesby, in the parish of Flixborough, North Lincolnshire, unearthed remains of an Anglo-Saxon settlement associated with one of the largest collections of artefacts and animal bones yet found on such a site. Analysis has demonstrated that the excavated part of the settlement was occupied, or used for settlement-related activity, throughout what have been termed the 'Mid' and 'Late' Anglo-Saxon periods. In an unprecedented occupation sequence from an Anglo-Saxon rural settlement, six main periods of occupation have been identified, with additional sub-phases, dating from the seventh to the early eleventh centuries; with a further period of activity, between the twelfth and fifteenth centuries AD.

The seventh- to early eleventh-century settlement remains were situated on a belt of windblown sand, overlooking the floodplain of the River Trent, eight kilometres south of the Humber estuary. The windblown sand had built up against the Liassic escarpment, to the east of the excavated area. The remains of approximately forty buildings and other structures were uncovered; and due to the survival of large refuse deposits, huge quantities of artefacts and animal bones were encountered compared with most other rural settlements of the period. Together, the different forms of evidence and their depositional circumstances provide an unprecedented picture of nearly all aspects of daily life on a settlement which probably housed elements of the contemporary social elite amongst its inhabitants, between the seventh and eleventh centuries. Furthermore, and perhaps even more importantly, the detailed analysis of the remains also provides indications of how the character of occupation changed radically during the later first millennium AD, when the area of what is now North Lincolnshire was incorporated, in chronological succession, within the Kingdom of Mercia, the Danelaw, and finally, the West Saxon and then Anglo-Danish Kingdom of England.

The publication of the remains of the Anglo-Saxon settlement is achieved in four volumes, and will be supported by an extensive archive on the Archaeological Data Service (ADS) for the United Kingdom. The

excavation, post-excavation analysis and publication phases of the project have been funded principally by English Heritage, and the project has been run through the Humberside Archaeology Unit – now the Humber Archaeology Partnership.

The different volumes within the series of publications serve slightly different purposes. This volume presents an integrated analysis of the environmental remains. A broader thematic social analysis of the site is presented in Volume 4. There, interpretation of the settlement remains relating to themes such as the agricultural economy, craft-working, exchange, and problems of defining settlement character is (of necessity) viewed through the filter of site taphonomy and discernible patterns in the discard of artefacts and faunal remains. The undertaking of the thematic social analysis presented in Volume 4 depended on the extent to which deposits and their contents could be shown to be representative of the settlement as a whole, or the excavated area alone. Furthermore, analysis of changing trends through time could be achieved only through establishment of the existence of like deposits in different periods of the occupation sequence. Assessment of the parameters of interpretation possible in different periods of occupation rested on a range of factors. These comprised the refuse disposal strategies used; the extent of artefact residuality and re-deposition; survival factors relating to particular types of evidence: for example, artefact fragmentation and animal bone taphonomy; and the presence of intact occupation surfaces, within or in association with structures, e.g. floors within buildings.

The excavated settlement remains were both located upon, and sealed by blown sand; and the sealing deposits were up to two metres deep in places. Below this sand inundation, post-excavation analysis has identified evidence of six broad periods of settlement activity, with definable phases within them, dating from at least the early seventh century AD until the mid fourteenth/early fifteenth century. The overall stratigraphic sequence can be summarised as a series of phases of buildings and other structures, associated at different periods with refuse dumped around them in middens and yards, or with a central refuse zone in the shallow valley that ran up into

the centre of the excavated area. Several of the main structural phases were also separated by demolition and levelling dumps and it is this superimposition that has resulted in the exceptional occupation sequence. The majority of the recovered finds, approximately 15,000 artefacts and hundreds of thousands of animal bone fragments, were found within these refuse, levelling and other occupation deposits. The high wood-ash content of a significant number of the dumps, their rapid build up, and the constant accretion of sand within them, formed a soil micro-environment which was chemically inert - the alkalinity of the wood-ash and sand accretion preventing acid leaching. It was this fortuitous burial environment that ensured the excellent preservation conditions for the artefact and vertebrate skeletal assemblages.

The environmental archaeological evidence from the site of Flixborough (in particular the animal bone assemblage) provides a series of unique insights into Anglo-Saxon life in England during the eighth to tenth centuries. The research reveals detailed evidence for the local and regional environment, many aspects of the local and regional agricultural economy, changing resource exploitation strategies and the extent of possible trade and exchange networks.

Perhaps the most important conclusions have been gleaned from the synthesis of these various lines of evidence, viewed in a broader archaeological context. Thus, bioarchaeological data from Flixborough have documented for the first time, in a detailed and systematic way, both site-specific and wider transformations in Anglo-Saxon life during the ninth century AD, and allow comment on the possible role of external factors such as the arrival of Scandinavians in the life and development of the settlement. The bioarchaeological evidence from Flixborough is also used to explore the tentative evidence revealed by more traditional archaeological materials for the presence during the ninth century of elements of monastic life. The vast majority of bioarchaeological evidence from Flixborough provides both direct and indirect evidence of the wealth and social standing of some of the inhabitants as well as a plethora of unique information about agricultural and provisioning practices associated with a major Anglo-Saxon estate centre.

The environmental archaeological record from Flixborough is without doubt one of the most important datasets surviving from the early medieval period, and one which will provide a key benchmark for future research into many aspects of early medieval rural life.

# Zusammenfassung

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Von 1989 bis 1991 fanden in der Nähe des aufgegebenen mittelalterlichen Dorfes North Conesby in der Gemeinde Flixborough, North Lincolnshire, Ausgrabungen statt, die eine angelsächsische Siedlung mit einem der umfangreichsten Spektren an Kleinfunden und Tierknochen, dass je an einem vergleichbaren Fundplatz entdeckt wurde, aufdeckten. Die Auswertung des Fundmaterials zeigte, dass der ergrabene Teil der Siedlung während der „mittleren“ und „späten“ angelsächsischen Zeit durchgehend bewohnt oder für siedlungsähnliche Tätigkeiten verwendet wurde. Anhand einer für eine ländliche angelsächsische Siedlung bisher einmaligen Nutzungsabfolge konnten sechs Hauptperioden mit mehreren Phasen identifiziert werden, die schwerpunktmäßig vom 7. bis zum 11. Jahrhundert, mit einer jüngsten Nutzung vom 12. bis in das 15. Jahrhundert, reichen.

Die Ansiedlung des 7. - 11. Jahrhunderts befand sich ca. acht Kilometer südlich des Humbermündungsgebiets in der Flussebene des Trent auf einer Erhebung aus Flugsand. Dieser hatte sich vor einem östlich der ergrabenen Fläche gelegenen liassischen Geländeabbruch angesammelt. Während der Ausgrabungen konnten die Reste von ca. 40 Gebäuden und anderen Strukturen, sowie Überreste von Abfallgruben, die im Vergleich mit ähnlichen Siedlungen erstaunlich große Mengen an Kleinfundmaterial und Tierknochen enthielten, identifiziert werden. Insbesondere wegen ihres guten Erhaltungszustands bieten die verschiedenen Fundmaterialgattungen einen einmaligen Einblick in fast alle Aspekte des täglichen Lebens einer Siedlung des 7. bis 11. Jahrhunderts, in der unter anderem Angehörige der damaligen sozialen Elite wohnten. Von größerer Relevanz ist jedoch, dass die detaillierte Analyse des Fundmaterials deutlich macht, wie drastisch sich die Nutzungscharakteristika der Siedlung im Laufe des ersten Jahrtausends nach Christus veränderten. Während dieser Zeit gehörte das heutige nördliche Lincolnshire nacheinander zum Königreich Mercia, dem Danelag und dem westsächsischen, später anglo-dänischen, Königreich England.

Die Publikation der Ausgrabungen der angel-

sächsischen Siedlung umfasst vier Bände, und wird durch ein umfangreiches Archiv im digitalen *Archaeological Data Service* (ADS) Großbritanniens ergänzt. Ausgrabungen, Auswertung und Publikation des Projekts wurden finanziell hauptsächlich von *English Heritage* getragen und von der *Humberside Archaeological Unit*, jetzt *The Humber Archaeology Partnership*, durchgeführt. Die verschiedenen Bände der Publikation erfüllen je unterschiedliche Rollen: Band 3 enthält eine integrierte Auswertung sämtlicher botanischer Überreste.

Weiterreichende Analysen der soziologischen Entwicklung des Fundplatzes sind in Band 4 enthalten. Dort werden archäologische Daten der Ausgrabungen auf der Basis taphonomischer Studien und erkennbarer Abfallentsorgungsstrategien im Rahmen verschiedener Thematiken wie agrarwirtschaftlicher Entwicklung, Materialverarbeitung, Handelsstrukturen und Problematiken der Definition des Siedlungscharakters aufgearbeitet. Die Aussagekraft derartiger thematischer Analysen hängt jedoch direkt davon ab, ob einzelne Schichten und deren Inhalte für die gesamte Siedlung oder nur deren ergrabenen Teil repräsentativ sind. Eine weiterreichende Diskussion gradueller Veränderungen in der Nutzung des Fundplatzes war nur anhand von Vergleichen ähnlicher Befunde in verschiedenen Siedlungsperioden möglich. Mehrere Faktoren bestimmten dabei, in welchem Maße Aussagen für einzelne Perioden gemacht werden konnten: Parameter, nach denen Abfall zu verschiedenen Zeitpunkten deponiert wurde, Verfälschung des Fundbilds durch Altfunde und Umlagerung, spezielle Erhaltungsfaktoren für bestimmte Fundgattungen wie Kleinfundzerfall oder Tierknochentaphonomie und die Existenz von intakten Siedlungsschichten wie existierenden Laufniveaus, die innerhalb von Strukturen gefunden wurden oder mit diesen assoziiert waren.

Die ergrabenen Siedlungsreste waren auf eine Schicht aus Flugsand gesetzt. Eine ähnliche Wehschicht, teils bis zu 2m tief, bedeckte sämtliche Funde. Unter dieser Sandmenge konnten 6 Hauptperioden der Ansiedlung mit zugehörigen, gut definierbaren Unterphasen identifiziert werden. Insgesamt datieren diese vom frühen 7. bis zur

Mitte des 14. Jahrhunderts, bzw. in das frühe 15. Jahrhundert. Die gesamte Schichtenabfolge kann als eine Reihe verschiedener Gebäude und anderer Strukturen mit zugehörigen Höfen und Abfallhöfen bzw. -gruben sowie einer zeitweise genutzten zentralen Abfallgrube im Bereich des flachen Tals im Zentrum der Grabungen zusammengefasst werden. Mehrere der Hauptbesiedlungsperioden sind durch Zerstörungsschichten und deren Planierungen klar trennbar, wodurch sich eine außergewöhnlich klare Nutzungssequenz ergibt. Der größte Teil der ungefähr 15.000 Kleinfunde und unzähligen (100.000+) Tierknochenfragmente stammt aus diesen Abfall-, Aufschüttungs- und anderen Nutzungsschichten. Eine bemerkenswerte Anzahl der Abfallgruben enthielt große Mengen von Holzasche. Dieser Faktor, sowie der schnelle Aufbau der Schichten und die konstante Ablagerung von Sand erzeugten ein konservierungstechnisches Mikroklima mit chemisch inaktivem Boden – die alkalische Holzasche verhinderte ein Zersetzen durch Säuren, die durch die Sandschicht drangen und deren Alkalinität aufhoben. Aufgrund dieses glücklichen Umstands waren sowohl Klein- als auch Knochenfunde außerordentlich gut erhalten.

Durch das botanische Fundmaterial der Ausgrabungen in Flixborough und insbesondere die Tierknochenfunde ergibt sich eine ganze Reihe erstaunlicher Einblicke in das tägliche Leben einer angelsächsischen Siedlung in England während des 8. bis 10. Jahrhunderts. Die Auswertung dieser Funde ermöglicht nicht nur Aussagen über lokale und regionale Flora und Fauna, sondern auch über verschiedene Aspekte der örtlichen und regionalen Agrarwirtschaft. Anhand botanischer Überreste konnten ferner Veränderungen in der Nutzung vorhandener

Ressourcen sowie im Bestehen und Ausmaß von Handels- und Austauschnetzen festgestellt werden.

Die wahrscheinlich interessantesten Resultate des Projekts ergaben sich aus der Synthese dieser verschiedenen Fund- und Befundgattungen, die in einem weiteren archäologischen Rahmen untersucht wurden. So konnten anhand der bioarchäologischen Überreste zum ersten Mal sowohl fundplatzspezifische als auch weiterreichende Veränderungen im täglichen Leben einer angelsächsischen Siedlung des 9. Jahrhunderts n. Chr. systematisch und detailliert festgestellt werden. Weiterhin ermöglichten diese Daten Aussagen über mögliche externe Einflüsse, wie z. B. die Ankunft skandinavischer Siedler, auf das Leben und die Entwicklung des Fundplatzes. Das bioarchäologische Fundmaterial aus Flixborough bietet zudem einen weiteren Ansatzpunkt zur Diskussion einer anhand traditionellerer Fundgattungen nur andeutungsweise erkennbaren Präsenz monastischer Elemente im 9. Jahrhundert. Der Grossteil des bioarchäologischen Materials aus Flixborough liefert sowohl direkte als auch indirekte Nachweise des Reichtums und sozialen Status einiger Einwohner, sowie unzählige Informationen zu den landwirtschaftlichen Nutzungs- und Versorgungsstrategien eines wichtigen angelsächsischen Siedlungszentrums.

Das botanische Fundspektrum Flixboroughs ist somit zweifelsohne eines der wichtigsten Datensets des frühen Mittelalters. Als solches ist es wahrscheinlich, dass dieses Forschungsprojekt auch in Zukunft für Forschungsarbeiten zu verschiedenen Aspekten des ländlichen Lebens im Frühmittelalter maßgeblich bleiben wird.

*Translated by Christoph Rummel*

# Résumé

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Entre 1989 et 1991, des fouilles adjacentes à l'ancien établissement de North Conesby, dans la paroisse de Flixborough, North Lincolnshire, mirent à jour les vestiges d'un établissement Anglo-saxon associés à l'une des plus larges collections d'artefacts et d'ossements animaux jamais trouvée sur un tel site. Les analyses ont montré que la partie fouillée de l'établissement était occupée, ou utilisée pour des activités liées à l'établissement, pendant ce qu'on a appelé le « Milieu » et la « Fin » de l'époque Anglo-saxonne. Grâce à cet exemple sans précédent de séquence d'occupation d'un établissement Anglo-saxon rural, on a identifié six périodes d'occupation principales, avec des sous phases supplémentaires, qui vont du septième au début du onzième siècle ; avec une autre période d'activité située entre le douzième et le quinzième siècle après JC.

Les vestiges de l'établissement datant du septième au début du onzième siècle se trouvaient sur une région de sablon, qui dominait la plaine inondable de la rivière Trent, située à huit kilomètres au sud de l'estuaire de la rivière Humber. Le sablon s'était accumulé le long de l'escarpement liasique, à l'est de la zone fouillée. On mit à jour les restes d'environ quarante bâtiments et autres structures ; et, grâce à la présence d'importants dépôts de détritiques, on a découvert de grandes quantités d'artefacts et de restes animaux, contrairement à la plupart des autres établissements ruraux de la période. Les différentes formes de preuves, ainsi que les circonstances de leur déposition, fournissent une image sans précédent de presque tous les aspects de la vie quotidienne dans un établissement qui comptait certainement, entre le septième et le onzième siècle, des membres de l'élite sociale de l'époque parmi ses habitants. De plus, et peut-être surtout, les analyses détaillées des vestiges fournissent aussi des indications quant au changement radical du caractère de l'occupation pendant la fin du premier millénaire après JC, quand la région de l'actuel North Lincolnshire fut incorporée, chronologiquement, au Royaume de Mercie, au Daneslaw, et enfin au Royaume d'Angleterre Saxon de l'Ouest, puis Anglo-Danois.

La publication des vestiges de l'établissement Anglo-

saxon se compose de quatre volumes, et s'appuiera sur les nombreuses archives du Service de Données Archéologiques (*Archaeological Data Service*, ou *ADS*) du Royaume-Uni. Les fouilles, analyses post-fouilles, et les phases de publication du projet ont été financées principalement par English Heritage (organisme Britannique de protection du patrimoine historique), et le projet fut mené à bien par l'Unité Archéologique du Humberside (Humberside Archaeology Unit), désormais connue sous le nom de Humberside Archaeology Partnership. Les différents volumes qui composent la série de publication ont des objectifs qui diffèrent quelque peu. Ce volume-ci présente une analyse intégrée des restes environnementaux.

Une analyse sociale thématique plus large du site est présentée dans le Volume 4. L'interprétation des restes de l'établissement par rapport à des thèmes tels que l'économie agricole, l'artisanat, l'échange, et par rapport aux problèmes quant à la définition du caractère de l'établissement, y est nécessairement vue à travers le filtre de la taphonomie du site et des schémas discernables de déposition d'objets et restes animaux. Le déroulement de l'analyse sociale thématique présentée dans le Volume 4 dépendait de la possibilité de montrer à quel point les dépôts et leurs contenus étaient représentatifs de l'établissement entier, ou de la zone fouillée seule. De plus, les analyses de l'évolution des tendances à travers le temps n'ont été possibles qu'après avoir déterminé l'existence de dépôts similaires à différentes périodes de la séquence d'occupation. L'évaluation des paramètres d'interprétations possibles à différentes périodes d'occupation reposait sur plusieurs facteurs. Ceux-ci comprenaient les stratégies d'élimination des détritiques utilisées; la quantité d'artefacts résiduels et redéposés; les facteurs de survie de certains types de preuves: par exemple, la fragmentation des artefacts, et la taphonomie des ossements animaux; ainsi que la présence de surfaces d'occupation intactes, à l'intérieur ou associées à des structures, comme par exemple les sols à l'intérieur de bâtiments.

Les vestiges de l'établissement qui ont été fouillés se situaient sur le sablon, et ils en étaient également

recouverts. Ce dépôt de couverture mesurait jusqu'à 2 mètres de profondeur par endroit. Sous cette épaisseur de sable, les analyses post-fouilles ont pu identifier 6 périodes d'activités de l'établissement, qui comprennent leurs propres sous-phases, et qui dataient au moins du début du septième siècle et allaient jusqu'au milieu du quatorzième/début du quinzième siècle après JC. La séquence stratigraphique générale peut se résumer à une série de phases de construction de bâtisses et autres structures, associée au cours de différentes périodes à des détritiques répandus ou amassés autour des structures, ou encore à une zone centrale d'amoncellement de détritiques dans la petite vallée qui s'étendait jusqu'au centre de la zone de fouilles. Plusieurs de ces phases structurales principales étaient aussi séparées par des couches de gravats provenant de démolition et de nivellement, et c'est cette superposition qui rend la séquence d'occupation exceptionnelle. La plupart des découvertes (environ 15000 artefacts et des centaines de milliers de fragments d'os animaux) provenaient de ces amas de détritiques, couches de déblaiement, et autres dépôts liés à l'occupation. Un nombre significatif de ces amas se distinguent par une forte proportion de cendre de bois, leur formation rapide, et l'apport constant de sablon, ce qui a provoqué la formation d'un microenvironnement du sol qui était chimiquement inerte: Les cendres de bois alcalines et l'apport de sablon ont empêché le lessivage acide. Cet ensevelissement fortuit a permis d'excellentes conditions de conservation des artefacts et d'ensembles d'ossements articulés.

Les preuves archéologiques environnementales du site de Flixborough (en particulier les ensembles d'ossements animaux) nous ouvrent des perspectives exceptionnelles sur la vie Anglo-saxonne en Angleterre du huitième au dixième siècle. Les recherches révèlent des preuves détaillées de l'environnement local et régional, maints

aspects de l'économie agricole locale et régionale, l'évolution des stratégies d'exploitation des ressources, et l'étendue d'éventuels réseaux de commerce et d'échange.

Les conclusions les plus importantes furent peut-être obtenues grâce à la synthèse de ces différents ensembles de preuves, vues dans un contexte archéologique élargi. Ainsi, les données bioarchéologiques de Flixborough ont montré pour la première fois, d'une manière détaillée et systématique, des transformations à la fois spécifique au site et d'autres plus générales de la vie Anglo-saxonne pendant le neuvième siècle après JC, et elles ouvrent la voie à une réflexion sur le rôle possible de facteurs externes tels que l'arrivée de Scandinaves dans la vie et le développement de l'établissement. Les preuves bioarchéologiques provenant de Flixborough sont également utilisées pour explorer les preuves expérimentales révélées par des matériaux archéologiques plus traditionnels de la présence d'éléments de vie monastique au cours du neuvième siècle. La grande majorité des preuves bioarchéologiques de Flixborough fournit des preuves à la fois directes et indirectes de la richesse et position sociale de certains des habitants, ainsi qu'une foule d'informations uniques sur les pratiques agricoles et d'approvisionnement associées à un établissement Anglo-saxon de grande importance.

Les archives archéologiques environnementales de Flixborough font sans aucun doute partie des ensembles de données les plus importants qui subsistent du début de l'époque médiévale, et elles fourniront un point de référence incontournable pour la recherche future sur de nombreux aspects de la vie rurale du début de l'époque médiévale.

*Traduit par Sterenn Girard-Suard*

# 1 Introduction and Research Objectives

*Keith Dobney and Christopher Loveluck*

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## **1.1 Introduction**

Between 1989 and 1991, excavations within the parish of Flixborough, North Lincolnshire, uncovered the remains of an exceptionally wealthy Anglo-Saxon settlement, 8km south of the Humber estuary, overlooking the floodplain of the River Trent (Fig. 1.1). Analysis has demonstrated that the excavated part of the settlement was occupied, or used for settlement-related activity, throughout the Middle and Late Saxon periods (see Loveluck and Atkinson in Volume 1, Chapter 4). In an unprecedented vertical stratigraphic sequence from an Anglo-Saxon rural settlement, six main periods of occupation were identified, with additional sub-phases, dating from the early seventh to the early eleventh century, and a further period of High Medieval activity. The remains of approximately forty buildings and other structures were uncovered, and vast quantities of artefacts and animal bones were retrieved. Together, the different forms of evidence and their depositional circumstances provide an unprecedented picture of nearly all aspects of daily life during the Middle and Late Saxon periods, on a settlement which probably housed elements of the contemporaneous social elite amongst the spectrum of its inhabitants. Furthermore, and perhaps even more importantly, the detailed analysis of the remains also provides indications of how the character of occupation changed radically during the second half of the first millennium. The reasons for these changes are a matter for detailed debate in both this and the other volumes of the Flixborough publications (see particularly Volume 4).

The bioarchaeological evidence, the principal focus of this volume, addresses a variety of issues, many of which, not surprisingly, relate to economic and environmental aspects of the settlement itself. This traditional view of the role of environmental archaeology has, however, sadly hampered the realisation of its broader potential in addressing a much wider range of important archaeological questions. The full exploration and subsequent

integration of bioarchaeological evidence is, therefore, still rare in many reports and publications. This volume attempts to move away from the rather standardised presentation and discussion of bioarchaeological data (usually as distinctly separate classes of information – i.e. by species or higher taxa) that has been the norm for some considerable time. Although much of the same evidence is still presented, the structure of the volume is set out in such a way as to further explore broader archaeological themes, many of which have relevance beyond the so-called perceived ‘specialist’ fields of zooarchaeology or archaeobotany.

## **1.2 Research Objectives**

Despite the existence of written sources, and decades of excavation, our current, somewhat limited, knowledge of the dynamics of Middle and Late Saxon economics in England, render any research into the archaeology of this period of national priority. The quality of the archaeological evidence contained within the settlement sequence at Flixborough is, therefore, particularly important for both the examination of site-specific issues, and for the investigation of wider research themes and problems currently facing Middle and Late Anglo-Saxon settlement studies. For example, with regard to site-specific research, the remains provide an exceptional opportunity for reconstructing the changing character of the settlement’s economy, and aspects of its relationships with its surrounding landscape and region. Whereas, at a broader level, amongst other themes, the wider comparison of the traits evident at Flixborough enables a re-assessment of the problems of defining the status and character of Middle and Late Saxon rural settlements from their archaeological remains. At the same time, it is also possible that certain observable trends in the evidence reflect the changing relationships between rural and urban settlements in the period between the eighth and



eleventh centuries.

A range of broad and more specific academic objectives which the various bioarchaeological (and other) remains could help to address, were outlined in the original material assessment report (Whitwell 1994). These can be summarised as follows:

- determine structural details of buildings through surviving structural materials such as wood and roofing materials
- establish the range of activities represented by the various bioarchaeological remains recovered from the site
- determine the extent to which individual buildings or areas can be associated with specific activities or functions
- establish fluctuations in the character of occupation
- determine any evidence for planning or organisation of the site
- consider the status of the settlement, particularly in relation to the suggested religious and/or aristocratic connections
- determine the place of Flixborough in the local manorial, administrative and ecclesiastical hierarchy
- attempt to 'place' Flixborough into its local topographic context by understanding the contemporary surrounding environment
- establish Flixborough's position in the regional economy of Lindsey (including consideration of locally and regionally traded goods)
- establish 'finds profiles' for Flixborough and other relevant sites in the UK and on the continent
- elucidate evidence for cultural trading and political links with Lindsey and further afield
- conduct a re-assessment of the concept of 'high-status' Mid-Saxon sites.

More specific avenues of potential for the bioarchaeological remains were highlighted in the updated project design subsequently submitted to English Heritage (Loveluck 1996). These included investigation of:

- the various components of the agrarian economy (animal husbandry as well as the arable and horticultural aspects)
- the exploitation of woodland resources (for construction purposes and fuel)
- the environmental conditions in the vicinity of the settlement
- the relationship between the settlement and its immediate hinterland
- the patterns of consumption
- the character and status of the settlement as a producing and/or consuming community within the local Mid-Saxon settlement hierarchy.

The nature and extent to which the various bioarchaeological groups of material (animals and plants) can address these questions rests on the quality of the

surviving evidence, which, in the case of Flixborough, is extremely variable. The identifiable charred plant assemblage was very small and represented in only a few restricted contexts. As a result, charred plant remains have provided very little information on arable and horticultural practices at the site (Chapter 7). They did, however, provide invaluable evidence (along with molluscs) for a specific resource exploitation of the nearby coastal saltmarshes (see Chapter 8). Charcoal provided some useful hints as to what kinds of wood were used for fuel and for structural purposes (Chapter 8), whilst (with the animal bones), molluscs and charred plant remains enabled a plausible (and in some cases detailed) view of aspects of the early medieval environment to be reconstructed (Chapter 5).

As previously mentioned, however, it is the zooarchaeological assemblage (including marine molluscs) which has provided the most comprehensive basis for addressing the greatest number of the research questions outlined above. For Britain as a whole (and particularly the north of England), well-dated vertebrate assemblages of early medieval date are somewhat limited in number and distribution. Problems with site visibility, context integrity, scale of excavation, length of occupation sequences and dating have rendered many of these assemblages of limited interpretative value, whilst the study of specifically Middle to Late Saxon animal bones has also been biased by the rarity of sites, and by a focus towards the excavation of monastic centres. Sites where large vertebrate assemblages can be linked with good vertical stratigraphy and dating evidence, and where material has been recovered using systematic procedures involving sieving and sampling (as at Flixborough), are, therefore, extremely important.

The vertebrate remains are of particular value for the investigation of the specific facets of the economy of such a settlement, especially animal husbandry (Chapter 7), exploitation of wild vertebrate resources (Chapter 8), and trade and exchange links (Chapter 9). However, these and more fundamental questions relating to the nature and character of the settlement (Chapter 10) can only be framed and subsequently addressed within an established research framework linked to our current understanding of the Middle to Late Saxon period in England – a brief summary of which follows.

### *Rural settlements*

Although it is still uncertain how, or if, Mid-Saxon (7th–8th centuries AD) rural estate holdings were different to those of the Early Saxon period, it is generally assumed that a similar territorial structure to that of the Late Roman period still existed. By the Mid-Saxon period, extant documentary evidence appears to confirm this assumption and indicates the existence of the large estates incorporating within them a mosaic of resource areas. However, during the Mid-Saxon period we see, not only an increase in general size of these estates, but also

increasing complexity in land-holding with the introduction of *bocland*. This development witnesses the beginnings of ecclesiastical estates under charter, whereby Kings and secular aristocrats donated large estates or portions of them to the church. As a result, the new monastic estates, as well as old established secular aristocratic land-holdings, subsumed large adjacent territories, as well as smaller far-flung holdings, with rights of access to certain resources (e.g. domestic livestock, wild terrestrial and marine resources, and woodland).

From *circa* mid ninth century AD, (Late Saxon/Anglo-Scandinavian period), these large monastic and secular estates began to be broken up into smaller territorial holdings. In the north of England, this occurred as a result of a combination of factors. The first and perhaps most obvious, was the settling of the 'Great Army' in AD 876. However, the jealousy of the secular aristocrats towards large ecclesiastical estates may have contributed in some degree to their reduction in size, perhaps through the deliberate confiscation of land in areas not affected by Viking raids. Changes in the patterns of land-holding,

however, appear to have already begun in the early ninth century, heralding a period of major social and economic upheaval.

During the tenth century (by and large), the pattern of land ownership appears to be reflected by much smaller secular estate holdings and monastic estates than those of the Mid-Saxon period. Direct consequences of this must have been the dislocation from previous far-flung holdings and rights of access to a range of resources. This would have resulted in a change in the production/subsistence pattern towards a more intensive system and the need for more trade. Through the 10th–11th centuries, elite groups (Anglo-Scandinavians in the north) were linked with enlarged secular aristocratic estates.

The historical evidence for hierarchies of sites bound together on large estates provides ideal opportunities to study their inter-relationships. The movements of products (such as domestic and wild animals) in the form of taxation/renders to high-status estate centres like Flixborough, is certainly something that can help explore further the nature and character of Anglo-Saxon 'clientship'. The presence of numerous wild species (particularly birds and fish) in the Flixborough assemblage, as well as providing a superb opportunity to explore the palaeoecology of the vicinity of the site, allows a more thorough definition of the different territories that were exploited by its inhabitants.

### *The emporia and urban development*

Our understanding of so-called 'proto-urban' settlements in the north of England is severely hampered by extremely small numbers of sites and their associated samples of vertebrate remains. For the Mid-Saxon period, the only such site is Fishergate, York – assumed to be the *wic* or emporium (trading centre) known as Eoforwic. Archaeological evidence of *wics* throughout England indicates direct evidence of trading and craft specialisation. The nature of occupation at these sites is not well understood, and it is not clear whether they were occupied permanently, or at intervals throughout the year, or even who inhabited them. It appears to be the case (from documentary evidence on tenurial structure) that these were externally provisioned from their rural hinterlands. A tenuous case for this has been made for the vertebrate remains from Fishergate (O'Connor 2001).

The nature of the relationship between the Mid-Saxon emporia and their rural hinterlands, whether with high-status monastic or secular estates such as Flixborough, is still unclear. A number of clues can be gleaned from, for example, specialist craft activities which although present at *wic* sites, can also be demonstrated at rural sites such as Flixborough (for more detailed evidence of these see Volume 4). Luxury imported commodities (e.g. pottery and lava quernstones) were also reaching a wide range of sites in the immediate hinterlands of the *wics*, especially so-called high-status centres (such as Flixborough). This

almost certainly reflects direct contact occurring along the coast and major estuaries (in the case of eastern England, both north and south of the Humber). It is, therefore, likely that the movement and importation of luxury commodities in the region was directly controlled by Anglo-Saxon kings and their trading posts. These emporia or *wics* were probably trading settlements partly fulfilling a customs and excise role, (in order to control supplies of important commodities and, at the same time, levy duties upon them), as well as being limited production centres.

The development of the major urban centres such as Jorvik (York) and Lincoln, during the Late Saxon/Anglo-Scandinavian period in the north of England, and the role they played in transforming the political and economic status of the Saxon estate structure, is still not well understood. During this period, it is apparent that a major decrease in specialist craft activities occurs in the rural estate centres, with large-scale specialist craft activities and production shifting into the developing towns. At the same time, imported luxury commodities also become concentrated in these new urban centres, and do not appear to be widely dispersed into the hinterland, even at high-status rural settlements such as Flixborough. This implies that perhaps the importation and distribution of luxury commodities were at that time controlled by Scandinavians within the towns. This could also be the case for agricultural surplus and access to higher-status resources such as wild game.

At the same time, expressions of wealth and status by rural estate holders may have altered significantly. Aspects of this could well be reflected in changes in the consumption of regional resources from more local estate holdings (e.g. increased numbers of livestock and/or of more commonly occurring wild resources such as wildfowl). Comparisons between the vertebrate assemblages from Flixborough and Anglo-Scandinavian York and Lincoln would help resolve these questions.

In certain aspects of material culture therefore, the Anglo-Scandinavian towns could be said to be more 'divorced' from their hinterlands than their predecessors (i.e. Mid-Saxon *wics* or emporia) in terms of their control and distribution of a range of resources. Although both Middle and Late Saxon systems reflect methods of control and taxation, the growing bodies of diverse archaeological evidence (including animal bones) may indicate that the systems were very different. Contrasting the complex interaction between rural and urban occupation dynamics for the later 9th and 10th centuries could further refine our views on the relationship between two kinds of contemporaneous consumer economies. It is, therefore, obvious that we should utilise bioarchaeological evidence in broader studies which aim to explore aspects of the social and economic infrastructure of these periods and settlement types.

## 2 The Archaeological Background

*Christopher Loveluck*

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### ***2.1 Topographical setting and circumstances of discovery***

The Anglo-Saxon settlement at Flixborough was situated on a belt of windblown sand which had built up against the Liassic escarpment, immediately to the east of the excavations (see Gaunt in Volume 1, Chapter 1). Until the seventeenth and eighteenth centuries, this belt of windblown sand was located on the interface between two environmental zones. These comprised the wetlands of the lower floodplain and delta areas of the River Trent, situated to the west and north, and the well-drained soils of the Lincoln Edge, on the escarpment to the east (Gaunt 1975, 15; Lillie 1998, 51–52; see also Gaunt in Volume 4, Chapter 4). Descriptive impressions of this landscape, with its meres, marshes, sand belts of pasture and arable land, together with occasional woodland, can be gleaned to a certain extent from the Domesday survey of 1086 (Foster and Longley 1924; Darby 1987, 103–108). They can also be visualised more fully from John Leland's account of his journey of 1544, from Gainsborough through to the Isle of Axholme (Chandler 1993, 294–297).

The excavated part of the Anglo-Saxon settlement was located upon and adjacent to a spur on the sand belt, with a shallow valley extending into the central part of the site. Derrick Riley first identified settlement remains in this area in 1933, following the recovery of Maxey-type pottery and loom-weights. Unfortunately, this type of pottery was not identified as Mid-Saxon in date until Addyman's excavations at Maxey, in Northamptonshire (Addyman 1964). Consequently, Riley concluded (in his unpublished notebook) that the settlement was Romano-British in date. Harold Dudley also referred to his recovery of Anglo-Saxon remains from nearby Conesby, although the exact geographical relationship of these

finds to the excavated settlement evidence is unclear (Dudley 1931, 44).

Prior to the quarrying of sand on the site, the settlement was confirmed as dating from the Anglo-Saxon period, during an archaeological evaluation in 1988 by Dr Kevin Leahy, Keeper of Archaeology and Natural History, at Scunthorpe Museum. This evaluation uncovered the remains of eleven east-west aligned inhumation graves, without grave-goods (Leahy FX 88 archive; Leahy 1995). Some of the burials were interred in coffins or chests, with iron fittings identical to those from other Anglo-Saxon cemeteries in the surrounding region, dating from the period between the seventh and ninth centuries AD (Mortimer 1905, 254–257; Ottaway 1996, 99–100). The partial foundations of possible buildings were also uncovered during this evaluation. As a consequence, therefore, English Heritage funded the Humberside Archaeology Unit (now Humber Field Archaeology) to conduct further evaluations, which resulted in a two-year programme of excavations on the settlement, from 1989 to 1991 (PLATE 2.1).

Between 1991 and 1995, further geophysical, magnetic susceptibility and surface collection surveys were undertaken, and additional evaluation trenches were excavated. They demonstrated that Middle and Late Saxon archaeological evidence, as well as scatters of Romano-British and medieval artefacts, extended both to the north and south on the sand belt, and also eastward towards the limestone escarpment. The remains from the Flixborough excavations, therefore, represent only a sample of the multi-period settlement activity in the vicinity (Loveluck and McKenna 1999; see also Loveluck Volume 1, Chapter 2 and Andrew Payne's contributions to Volume 1, Chapter 2).

# Epilogue

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As the previous chapters have, we hope, illustrated, the bioarchaeological evidence from Flixborough (in particular the animal bone assemblage) has provided a series of unique insights into many specific aspects of the settlement, as well as in more broader terms, of Anglo-Saxon life in England during the eighth to the tenth centuries. Ample detailed evidence has been elicited and conclusions drawn regarding the local and regional environment, many aspects of the agricultural economy, resource exploitation strategies and possible trade and exchange networks. However, perhaps the most important conclusions have been gleaned from the synthesis of these various lines of evidence, viewed in a broader archaeological context.

From a variety of different perspectives, it is clear that a major change occurred at Flixborough during the ninth century, which affected both the nature and character of the settlement. This corroborates other archaeological evidence from England (already highlighted by others), which points to a significant shift in social and economic aspects of wider Anglo-Saxon life. However, prior to the analysis of the Flixborough assemblage, this shift has never before been documented in such a detailed and systematic form from the bioarchaeological record. So, for the first time, data from Flixborough have contributed to this ongoing debate.

To what extent the influence of Scandinavian invaders and settlers had in producing these changes is still difficult to accurately assess. Major change appears to

occur at the site early in the ninth century, supporting the view that these external factors were perhaps less important early on. However, a return in the tenth century to patterns of animal exploitation originally observed in the eighth century AD at Flixborough, perhaps (we suggest) provides good evidence for a later (elite) Scandinavian involvement in social and economic reform, which resulted in the re-establishment of at least some aspects of estate structure seen in earlier middle Saxon times. The bioarchaeological evidence from Flixborough also appears to corroborate other archaeological evidence indicating that, whilst it may not be the case that the site was actually a monastery during the ninth century, some elements associated with monastic life were indeed present during this time. Much of the bioarchaeological evidence from Flixborough also provides either direct or indirect evidence that some of the inhabitants commanded the power and influence that gave them either access to resources, or allowed them to participate in activities, commensurate with their elevated status within Anglo-Saxon society. This appears to be particularly true for the eighth and tenth centuries.

In conclusion, the Flixborough bioarchaeological assemblage is without doubt one of the most important datasets of the early medieval period, and one which has provided a unique insight into Anglo-Saxon life. This work provides both a solid foundation of current data, and a secure interpretative framework upon which any future research can be built.